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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,800	12/12/2003	Ian Douglas Makinson	1171/40562A	3863

279 7590 07/03/2006

TREXLER, BUSHNELL, GIANGIORGI,  
BLACKSTONE & MARR, LTD.  
105 WEST ADAMS STREET  
SUITE 3600  
CHICAGO, IL 60603

EXAMINER

AFZALI, SARANG

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10735,800

Applicant(s)

MAKINSON ET AL.

Examiner

Sarang Afzali

Art Unit

3729

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12122003, 0129 60722 0805 2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I drawn to claims 1-5 in the reply filed on 06/19/2006 is acknowledged.

Claim 6 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 06/19/2006.

***Specification***

2. The disclosure is objected to because of the following informalities:

The alpha numeral 3 is referred to element (page 5, line 21), magnetisable element (page 5, lines 20-21 and 24), magnetisable ring (page 6, line 17 and page 7, line 15), ring (page 6, lines 11, 13, 18, 19 and page 7, line 2), and magnet ring (page 6, line 27) and so on. Applicant needs to provide a concise and consistent definition for ring 3.

The alpha numeral 7 is referred to apertures (page 6, line 11) and detents (page 7, lines 5 and 24) while alpha numeral 6 also refers to detents (page 6, lines 20, 22, 25, 26, etc.).

Appropriate correction is required.

### ***Drawings***

3. The drawings are objected to because both plastic disc and cap are cross hatched (Figs. 3 and 12) as steel materials rather than plastic materials. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linker et al. (US 6,689,315) in view of Du et al. (US 2005/0278937).

As applied to claims 1 and 4, Linker et al. teach a method of manufacturing an impeller comprising the steps of forming an impeller (201) having a plastic disc body (lower portion 211, Fig. 10A) and magnetisable material (insert 212, Fig. 10A) distributed and encapsulated with the body and magnetizing the magnetisable material to have an annular array of alternating poles (col. 10, lines 22-67 and col. 11, lines 1-9).

Linker et al. teach the invention cited with the exception of the testing the imbalance (claim 1), testing for static and dynamic imbalances (claim 4) and removing plastic material at at least two axially separated locations on the periphery of the disc (claim 4) to compensate the tested imbalance.

However, Du et al. teach a method of forming an electric motor wherein balancing rings (124) molded of plastic (116) encapsulate armature (102) and wherein during the balancing of armature (102) material is removed from one or more of the balancing rings (124) at one or more points (126, Fig. 7) in order to provide a balanced armature without affecting the performance of the motor (paragraph [0094], lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided Linker et al. with the imbalance testing and balancing step as taught by Du et al. in order to provide an effective means of reducing imbalance due to variations in part and assembly tolerances (Linker et al., col. 11, lines 45-46).

Note that even though Du et al. is not directed to an impeller, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Du et al. and Applicant are relying on the removal of plastic material as a balancing means in order to resolve their particular problems.

Note, that Du et al. inherently teach the testing for imbalance prior to providing the balancing step.

Furthermore, Du et al. teach that the dynamic balancing is done to reduce the vibration force transmitted to the motor housing by way of the bearings and that dynamic balancing requires removal of materials (paragraph [0014], lines 1-6). Since Applicant is not particularly disclosing what added benefit the static balancing has over the dynamic balancing and since Du et al. teach the testing for dynamic imbalance and the dynamic balancing step of removing material at different locations of the disc, therefore, Du et al. teaching of dynamic imbalance is also construed as teaching the testing for static imbalance and static balancing.

As applied to claim 2, Linker et al. further teach the steps of locating a ring of magnetisable material (212, Fig. 10A) in an injection mold (col. 10, line 58), including centrally locating the ring engaging an outer surface thereof at spaced locations around the surface and locating a shaft with the mold, passing through the ring such that the shaft and ring have a common axis of rotational symmetry; and injecting plastic into the

mold to encapsulate the ring of magnetisable material and span between the ring and the shaft and extracting the impeller from the mold.

Note that Linker et al. teach encapsulating the magnetisable ring (212) by injection molding and further teach that the hub (210, Fig. 10A) is also formed centrally within the mold passing through the ring such that they have a common axis of rotational symmetry and once the impeller is extracted from the mold then the shaft assembly (215, Figs. 9A-9B) is secured to impeller (201) by means of the snap fit feature (216) of the hub (210, Fig. 9B). Therefore, Linker et al., teach the step ((a)(ii)) of "locating a shaft centrally within said mold, passing through said ring, such that said shaft and said ring have a common axis of rotational symmetry" through the use of hub (210).

#### ***Allowable Subject Matter***

6. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

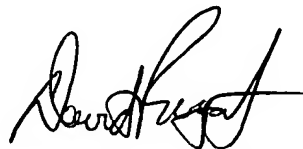
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.A.

SA  
6/26/2006



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER